CLAIMS

1. Projection module intended to project an image on a screen (46, 96, 121) defining a specified projection plane, said module comprising:

– an objective (41, 91, 161), which comprises means for emitting an imaging beam (47, 97); and

– a curved mirror (44, 94, 164),

characterized in that said module comprises at least two deflection surfaces (42, 43, 92, 93, 162, 163) for deflecting said imaging beam, these surfaces being placed in the path of said imaging beam between said objective and said curved mirror.

2. Module according to Claim 1, characterized in that said curved mirror (44, 94, 164) is a hyperbolic mirror.

3. Module according to either of Claims 1 and 2, characterized in that the angle between the axis of said objective and said projection plane does not exceed 10°.

4. Module according to any one of Claims 1 to 3, characterized in that, when the projected image is rectangular, the angle between the axis of said objective and the long side of the image projected on said screen does not exceed 10°.

5. Module according to any one of Claims 1 to 3, characterized in that, when the projected image is rectangular, the angle between the axis of said objective and the short side of the image projected on said screen does not exceed 25°.

6. Module according to any one of Claims 1 to 5, characterized in that at least one of said deflection surfaces is designed to redirect the imaging beam, coming from the objective, onto said curved mirror in a plane perpendicular to said projection plane.

7. Module according to any one of Claims 1 to 6, characterized in that at least one of said deflection surfaces makes an angle of between 40° and 50° with a plane normal to said projection plane.

8. Module according to any one of Claims 1 to 7, characterized in that said deflection surfaces are plane surfaces.

9. Module according to any one of Claims 1 to 8, characterized in that it includes at least one mask (80, 81, 82) associated with at least one of said deflection surfaces and designed to prevent the propagation of parasitic rays (83, 84, 85).

10. Module according to any one of Claims 1 to 9, characterized in that said curved mirror (44, 94) is at least partly convex.

11. Module according to Claim 10, characterized in that said curved mirror (44, 94) is convex.

12. Module according to any one of Claims 1 to 10, characterized in that said curved mirror (164) is at least partly concave.

13. Module according to Claim 12, characterized in that said curved mirror (164) is concave.

14. Optical motor for a projection system, said motor being intended to project an image on a screen defining a specified projection plane, said motor comprising:

– an imager (40, 90) designed to create said imaging beam (47, 97); and

– illumination means which themselves comprise a light source (130, 150) and focusing means (132, 133, 135, 152, 153, 155), creating an illumination beam (137, 157), and means for deflecting said illumination beam onto said imager,

characterized in that said motor further includes said module according to any one of Claims 1 to 13 and in that said means for deflecting said illumination beam comprise at least two separate deflection surfaces (134, 136, 154, 156) for deflecting said illumination beam.

15. Motor according to Claim 14, characterized in that the portion of said illumination beam not reflected by one of said deflection surfaces makes an angle of less than 10° with the portion of said imaging beam not reflected by one of said deflection surfaces.

16. Projection system (4, 8, 9, 120), characterized in that it comprises a projection module according to any one of Claims 1 to 13.

17. Projection system (4, 8, 9) according to Claim 16, characterized in that it comprises a projection screen (46, 96), said module illuminating said screen via the rear.